

## ***PLENARY SESSION***

**Keynote Speakers**

**Overview Speakers**

**Addresses: Representatives International Organizations**

**Conference Theme Presentations**



## SEVENTH INTERNATIONAL CONFERENCE ON THE PNEUMOCONIOSES

### JOHN A. PENDERGRASS

Assistant Secretary of Labor  
Occupational Safety and Health Administration  
U.S. Department of Labor

It is my privilege to be one of several to welcome you to Pittsburgh, and for many of you to the United States and to all of you to this Seventh International Conference on the Pneumoconioses. This is the first of the conferences to be held in the United States and we are honored. The importance of the conference and the breadth of interest is indicated by the number of countries represented by the participants in the conference. It is my understanding that over 50 nations are represented. The speakers, workgroup leaders and presenters are world authorities in the pneumoconioses. These diseases of the lungs have held the attention of scientists for well over 400 years. Agricola discussed the consequences of dusty trades in his 1556 publication *De re Metallica*. He emphasized the poor prognosis for workers who developed asthma and ulceration of the lungs due to dust exposure of miners. He stated that in the Carpathian Mountains many women married seven husbands all of whom died of diseases of the lungs, pneumoconioses. A term unknown at Agricola's time. It is credited to Zenker who in 1866 suggested it as a generic designation for dust deposits in the lungs.

When I began my industrial hygiene career 40 years ago I soon learned about dust exposure and the lung conditions caused by exposure to asbestos, silica, talc, bauxite, diatomaceous earth, coal dust, carbon, calcium and iron. The program for this week includes sessions on many of these same materials. Not for a moment should we or those who report on this conference think that we are gathered to rehash old topics or assume that progress has been lacking. To the contrary, this conference, as its six predecessors, is a continuance of knowledge. Current data, built on the past, using modern techniques and technologies permit the industrial hygienists, the physiologists, physicians, toxicologists and engineers to challenge the future.

As a government regulatory official I am acutely aware of the need for quality scientific information. If our regulations are to be effective and acceptable to those we regulate, we must have information that can generate a consensus. Such information stems from scientific data that stands up to peer review, peers from around the world. No nation and no single group of scientists can afford to isolate themselves nor ignore the work of others.

Perhaps more than ever before in the history of science, your work has direct effect on how business is conducted regard-

less of the country of origin or country of application. Multi-national corporations adapt to the countries in which they produce and market but they do not leave the knowledge, practices and policies of the home country behind. As you exchange scientific information on health effects you are also affecting how businesses will be conducted and trade carried out. Physiological response to occupational exposure knows no national boundaries.

Dust particles take many shapes and sizes and have almost unlimited chemical compositions. Agricola understood that lethal lung diseases resulted from working in the mines. The South Africans developed instruments to measure the concentration of dust particles in the gold mines. Particle size and lung retention are important in the causes of pneumoconioses. We are currently struggling with the definition of a fiber, only because we are learning that fiber length and diameter are important to what happens in the lungs. Are these properties of more concern than the chemical composition? Some day you will be able to tell us why silica in different combinations has decidedly different physiological responses. Today questions are being raised about particles that at one time, not so long ago, were thought to be benign.

The demise of asbestos as a satisfactory insulating material created markets for man made fibers. This has created a need for better understanding of what, when, and how these fibers affect the human body. We, as scientists, employers, government administrators and professors are challenged as to what we should be doing to protect workers' health and not unduly restrict innovation in the workplaces and the markets of the world.

You will not leave Pittsburgh with all of the answers. You will not have all of the answers when the Eighth International Conference on the Pneumoconioses ends. But we and all who depend on us for guidance and knowledge will be closer to the answers.

In addition to the scientific sessions that are planned I hope you will have time to take advantage of what the Pittsburgh area has to offer. Among these is the Department of Labor Mine Safety and Health Administration laboratories.

Thank you for allowing me to be a part of your conference and I wish you continued success in your search for scientific truth.

## DAVID P. TAYLOR

Deputy Director-General, International Labour Office, Geneva

Mr. Chairman, Ladies and Gentlemen:

On behalf of Mr. Francis Blanchard, Director-General of the International Labour Office, I extend a hearty welcome to all of you who have come from all over the world to attend the VIIth Pneumoconioses Conference. I should also like to thank our hosts, the City of Pittsburgh, in the person of the Assistant Executive Secretary to the Mayor, who is honouring this session with his presence, as well as the institutions in the United States which have joined forces together and with the ILO to organise the Conference. Those who have not organised an international scientific conference of this magnitude cannot possibly imagine the amount of planning, both technical and practical, that is entailed. Most grateful thanks are due, and it is my pleasure to give them, to the National Institute for Occupational Safety and Health, the Occupational Safety and Health Administration, the Mine Safety and Health Administration, the Bureau of Mines, and the very many institutions, such as the American College of Radiology, a number of universities, hospitals, employers' organisations and trade unions, which participated actively in the work of the national and international organising committees. I am most grateful—as I am sure you all are—to these institutions for their commitment, and to their individual members for the dedicated, intensive work they put into preparing the Conference. I am sorry that I cannot thank them individually—that would take us well into the afternoon—and I will ask you, Mr. Chairman, to convey my Organisation's most sincere appreciation to each and every one whose efforts enabled us to meet today for discussions which I am sure will prove to be stimulating, rewarding and effective.

Pneumoconioses are ugly diseases, and I, for one, always thought that the word itself was a bit of a nuisance to bring out. I am glad there are plans to find a more manageable title for the next Conference, something along the lines of "International Conference on Occupational Lung Diseases." This Conference is the seventh of its kind, the first one dating back to 1930. In those days, the title reflected the basic concern, which was with diseases induced by mineral dusts, mainly in mines. Over time, the Conference has come to consider the identification and prevention of lung impairments due to exposure to various contaminants, so the time may have to come to find a broader title. There is yet another reason for change. The "miners' disease"—to revert to the old popular term—is not only the concern of physicians and the affected persons or their families; like all occupational hazards, it is the concern of policy-makers and indeed of the general public. Of course, the dedication of medical practitioners, engineers and other technical specialists will continue to be required to fight lung diseases; indeed the skills

of these professionals will need to become ever more sophisticated. At the same time, the involvement of governments and representatives of employers and workers is going to become keener as time goes on. We believe there is now a need to use simple words that all concerned can understand.

If I harp on this somewhat, it is not for concern about semantics. To me, the use of the layman's language is as important as an illustration of one of the major features of the current approach to occupational hazards; I refer to tripartite participation in the assessment of problems, as well as in the design and implementation of effective policies and action programmes.

The emergence, in the mid-seventies, of a new approach to occupational safety and health led the ILO to reorient its activities in that field, while remaining constant in their aim: when the ILO was created, in 1919, in the wake of the first World War, the right of workers to safe and healthy working conditions was established in the Constitution of the Organisation. At the end of a later world conflict, the Declaration adopted in this very State, in the city of Philadelphia, gave the ILO the "solemn obligation to further among the nations of the world programmes which will achieve adequate protection for the life and health of workers in all occupations."

This is the mandate of the ILO for the world of work. We can truly say that the International Labour Organisation has been successful, as evidenced, for example, by the drop in the incidence of occupational accidents in industrialised countries. But much more needs to be done to take into account the growing complexity of labour problems and the high sophistication of new work processes. The ILO programmes feature a multi-disciplinary and integrated approach that has proved well-suited to tackling occupational safety and health problems in developing and industrialised countries alike, in a manner designed to promote both the well-being of workers and the productivity of enterprises.

In the Conclusions which it adopted in 1984 concerning future action in the field of working conditions and environment, the ILO Conference stated that improved working conditions and environment were a positive contribution to national development and a measure of the success of economic and social policy. I believe that good, safe working conditions must be promoted by international as well as national solidarity. If I think of miners, as one does in the context of lung diseases, I am struck by the fact that they often are migrant workers. If they have not been properly protected, if they are affected by the time they return to their home

countries, I am appalled to think of the burden that is placed on those countries, which may not have the infrastructure required to monitor the health status of those workers or the resources needed to compensate disabilities incurred abroad.

It is indeed very true, the U.S. Secretary of Labor made the point at the past session of the International Labour Conference in Geneva last June, that "in some developing countries, compliance with what would be considered human working conditions is not always easy—not because of a lack of concern, but because of a lack of resources to implement measures necessary to upgrade working conditions." This indicated that we still have a long way to go, and if I may again quote the Secretary of Labor, that "the ILO needs to promote the understanding that its labour standards are beneficial to long-term growth and development." I hope that the present Conference will contribute to fostering such an understanding.

The approach which underlies the recent international labour standards on occupational safety and health is dynamic and promotional. We recognise that occupational hazards are man-made hazards and as such can—and must—be controlled. Occupational injury and disease cannot be considered to be the inevitable tribute to progress. We see that, as socioeconomic development progresses, there is a wider acceptance of the fact that a worker's physical integrity and health are assets for the nation and the undertaking. Of course, work continues to maim and kill, sometimes with a vengeance, as in the recent North Sea oil platform catastrophe, at other times more insidiously. The miners or foundry workers who are suffering today from a disease they contracted unawares some twenty years ago are thus the victims of past conditions. Nevertheless, the International Labour Office estimates a total of approximately 40,000 new cases of occupational lung diseases each year. The fight goes on, in the safety and health administrations of member States of the International Labour Organisation, and through the

work of the ILO and other specialised agencies of the UN system. I should like to mention here the excellent cooperation we maintain with the World Health Organization. We plan to continue that cooperation in order to avoid duplication of efforts and mobilise maximal resources for the promotion of occupational health.

I understand from a recent report of the U.S. National Institute for Occupational Safety and Health that the "black lung" compensation programme has grown over ten years into an 18-billion dollar programme. This shows that the American miner is well protected, but at the same time highlights the importance of early action. The priority throughout the world must therefore be prevention, through the regular assessment of work places and work practices, regular health monitoring, early detection and reassignment to other duties as required. To give but one example, I would mention that at its 1988 meeting, the ILO's Coal Miners Committee called for the establishment of specialised occupational health services concentrating essentially on preventive functions, to advise employers and workers, and stressed the need for prevention and control measures to be fully integrated in machinery and working processes.

A few years back, the member States of our Organisation made an important statement: they noted that "the improvement of working conditions and environment must be pursued in times of economic recessions as well as in times of economic upturns." A clear political commitment is therefore required at national level, and the ILO will continue to promote and support the efforts made in its member States to devise realistic policies for the protection of workers' health and well-being. Over a number of issues, and lung diseases are clearly among those, technical expertise is of paramount importance in the implementation of action programmes. Your Conference provides an ideal forum for a broad exchange of scientific knowledge and practical experience, and I wish it every success.

## INDUSTRY OVERVIEW—VIITH INTERNATIONAL CONFERENCE ON THE PNEUMOCONIOSES

**BRUCE W. KARRH, M.D.**

Vice President, Safety, Health and Environmental Affairs  
E.I. duPont de Nemours & Company, Inc., Wilmington, DE 19898, USA

It is certainly a pleasure for me to be here and participate in this timely conference on such an important subject as the pneumoconioses. I am particularly glad to be able to give the industry overview to the issue and to be with such distinguished fellow participants in the opening session.

One may ask why a health and safety manager from a chemical company is presenting the industry overview to this topic. That is a good question, but it hits right at the central issue in dealing with the pneumoconioses. These conditions can occur, and usually do, in almost any industry and any group of workers. As it happens, though, the duPont Company, my employer, has more than a passing interest in the pneumoconioses. We own a large coal company, Consolidation Coal Company, headquartered right here in Pittsburgh. We also, though, on the chemical side of the company, have many heat sensitive processes and have been a user of insulation materials, some of which in the past has been, or has contained, asbestos.

Some of our processes have used silica and other similar process materials. We also are the manufacturer of asbestos-substitute materials, such as keular aramid fiber. So, as you can see, we have more than a passing interest in the pneumoconioses.

The pneumoconioses are an excellent illustration of some of the issues that industry, and society, face when dealing with chronic illnesses.

Industry has a responsibility to accept those health conditions it caused or contributed to. And this is a responsibility that my company, at least, willingly accepts and carries out. Industry can't, and shouldn't be expected to, however, accept all the ills of our society. We need different, more equitable, means for fulfilling that societal need. Some examples of where various efforts have been put forth which could possibly have industry begin to accept more than it's fair share of some illnesses have been seen in the high risk worker notification legislation which has been introduced, the victim compensation aspects which were a prominent part of the superfund reauthorization debate a few years ago, and others. Industry's opposition to these measures was not because we didn't want to properly care for those we may have harmed but because of the never-ending nature of the obligation to a poorly defined group.

Another significant issue industry faces is the never-ending litigation that is an integral part of our doing business, especially in the U.S. And again, this is not a desire on our part to not appropriately compensate those we have harmed, but to be able to have some semblance of fairness and equity between the magnitude of the harm we may have inflicted and the compensation which is awarded.

Industry has a sizeable effort to test the toxicity of materials which we handle and make as part of our programs to avoid creating needless societal risks. These efforts are costly, but needed. And we, at least in duPont, are proud of the work we have done and are doing to help assure we can control the risks we may impose.

At duPont, we have, for many years, had an extensive medical surveillance program for workers who may be exposed to asbestos. As newer technologies have come along, we have upgraded that program and added newer capabilities. In spite of this, however, we have had several cases of asbestosis and many more cases of pleural thickening from asbestos exposure.

Our consolidation coal company subsidiary has had some experience with the United States black lung legislation. While we don't have a great many cases of black lung disease, from a medical standpoint we have many current and former workers drawing financial benefits because they are included in the legislative definition of black lung. The issue is distinguishing between coal workers pneumoconioses and "black lung." The former is a disease and a medical issue. The latter is a program and a political/legal issue.

Medical, industrial hygiene and management people are well on the way to eradicating coal workers pneumoconiosis as a disease from American mining. "Black lung" will disappear more slowly as laws and regulations are adjusted to respond to political realities.

Simple coal workers pneumoconiosis was once common in U.S. coal miners but radiographic studies have shown a progressive decline in both its prevalence and its severity. The U.S. "black lung" legislation has gone through several revisions but, since those of 1981, seem to be more realistic and more capable of appropriately addressing the need for which it was designed.

Another issue that manufacturing industry is increasingly facing is the removal of old asbestos-containing insulation. And industry is not alone. Many of our schools and public and private buildings are faced with the difficult task of removing old, worn, and friable insulation that contains asbestos. This is a significant problem in the U.S. now. How to remove the insulation without creating additional risk.

There is a great need for health professionals to be more knowledgeable in all work-related health and safety condi-

tions, but especially in the area of the pneumoconioses. Conferences such as this provide the opportunity for development of the state-of-the-art and some general consensus around what is known, what isn't and what can be done to both know more and do more. We certainly are proud to be a part of this conference and to participate in the international effort to be better at what we do and hopefully play a part in eliminating, or at least controlling, the preventable diseases.

Thank you again for letting me be with you.

## REMARKS TO THE VIIIth INTERNATIONAL CONFERENCE ON THE PNEUMOCONIOSES

LYNN R. WILLIAMS

International President, United Steelworkers of America

Mr. Taylor, Mr. Pendergrass, Dr. Millar, Dr. Karrh, colleagues and friends in the fight against occupational disease:

It gives me great pleasure to address this Seventh International Conference on the Pneumoconioses. I am especially proud that, for the first time, the conference takes place in North America. Certainly the conference will spotlight some of the important research under way in the United States and Canada. At the same time, I hope it will give North Americans a better appreciation of importance of the International Labour Organization in the cause of worker health and safety and worker rights generally.

I suspect that many American occupational health researchers, when they think about the ILO at all, have a profound misimpression. The ILO may be seen as a rather ineffectual organization, bound by its own bureaucracy, spending a lot of money to publish a few monographs and reports. And yet in August 1980, when the Solidarity Trade Union was being born in the Gdansk shipyard in Poland, the very first demand of the strikers was that the government comply with a convention of the ILO.

ILO conventions and recommendations are a source of hope for oppressed workers everywhere. ILO Codes of Practice can be tools in the hands of trade unions struggling to improve working conditions. Of course the ILO can be bureaucratic; its documents can be bland. After all, the organization has to reconcile the views of workers, employers and governments; developed and developing countries; the Socialist Bloc, industrial democracies and the Third World. But it is that very diversity, and the need to balance differing views and interests, that give ILO instruments and codes such force. Nor are they only a matter for underdeveloped or undemocratic countries. The United States has ratified only a handful of ILO conventions; despite lip service to the principles of ILO, the United States has not always been in compliance with them.

This is a research conference. Its immediate purpose is to collect and report scientific data, not to debate political issues. But I hope you will keep in mind that the ultimate purpose of this conference is not research in the abstract, but research in the service of worker health. The right of every person to a safe and healthful working environment is, at base, the reason this conference exists. The ILO was not created merely to provide funding to scientists, or impressive studies for our bookshelves. The fundamental mission of the ILO is

human welfare—in this case the eradication of occupational disease. Of course the same is true of NIOSH.

It is especially gratifying to be in the presence of so much expertise, from so many parts of the world. With us this morning are occupational physicians, epidemiologists, toxicologists, industrial hygienists, and public health officials. Individually, and collectively through the ILO, NIOSH and other organizations, you are a tremendous resource in the fight against occupational disease. The great gains we have made in understanding and controlling workplace hazards would not have been possible without your technical knowledge and professional dedication. You have much to be proud of.

But in your daily work, I hope you will remember and join with those who have another kind of expertise, another source of dedication. Workers who face hazards every day on their jobs are also experts in occupational health and safety. They know firsthand the dangers of work and the practical problems of control. Frequently they are the first to identify an occupational disease. It was, for example, the miners of uranium-bearing ores in the Erz Mountains of Ventral Europe who first described radiation-induced lung disease to Georgius Agricola more than 400 years ago.

And I should not have to remind you that effective control of occupational hazards has usually come only through political action by workers themselves and the unions which represent them. I sometimes hear it said that occupational health and safety is a new issue for the trade union movement. Nothing could be further from the truth.

One example comes from the early textile industry in Massachusetts. The workers were mostly women. They were represented by one of the first North American unions, and led by a remarkable labor leader named Sarah Bagley. In 1845, they marched, agitated, and petitioned the state legislature for shorter hours and better ventilation in the mills in order to combat a "wasting sickness" they correctly attributed to cotton dust. Of course, the legislature did nothing, citing a possible competitive disadvantage with Connecticut and Rhode Island if Massachusetts attempted to regulate, and suggesting that the real solution was to be found in the wider spread of Christian principles among the mill owners.

It took more than 60 years for the medical profession to catch up to the Massachusetts women by identifying their disease as byssinosis. The British Factory Inspectorate began to look



at the problem in about 1908. Effective regulation in the United States did not come until 1978.

Safety and health concerns were also evident in the early labor struggles in mining, steel, and other industries, sometimes in the context of shorter hours, or union-sponsored benefit programs for injured members—sometimes more directly, in demand for improved working conditions. For example, the first effective dust controls in the Quebec mines came only after a 5 month strike in 1949. In short, workers have always cared about health and safety. But despite their best efforts, and the efforts of a few enlightened health professionals and government officials, it took the rise of strong trade unions to bring real reform. Even then, it took decades of hard work through collective bargaining and political agitation to achieve the protection workers now enjoy.

That is not just the lesson of history, it is a lesson we must learn every day. In countries where worker rights are recognized and a strong trade union movement exists, working conditions are safer and more healthful. But the inverse is also true. I ask you to consider whether a country or a company which denies its workers the right to a decent wage, the right to organize a trade union, the right to speak out about unfair practices, will voluntarily provide a safe and healthful workplace. You cannot believe in occupational health unless you also believe that workers should have the right to do something about the hazards they face.

Perhaps the most important development in occupational health in the past decade is the right-to-know movement. That movement has a simple goal—that workers should have the right to all information affecting their health and safety. In the United States we have mostly achieved that right through the OSHA Hazard Communication Standard, EPA regulations, state and local laws, and many collective bargaining agreements. Canada and the European Communities have adopted new chemical information systems. Worldwide, the phrase “right-to-know” is coming into general use.

Achieving the right to know has not been easy. In the United States, the attitude of many companies and some health professionals was that workers didn’t need, couldn’t understand,

and might even misuse specific chemical information. It took years of effort by unions and environmental groups to get effective laws on the books. It required public education, lobbying, legal action, extensive participation in rulemaking, and plain hard work. I hope you will understand that effort for what it was—a profound complement to the research community you represent. What we wanted was the right to know the results of your research as it applies to our workplaces, the right to know chemical names so we could effectively use the knowledge you helped gain. If there was ever any doubt about the importance of your work, not as abstract research, but as a tool for eliminating hazards, surely that should dispel it.

I hope the right-to-know movement can point the way to a more effective coalition between scientists and those who depend on scientific research to improve the workplace. For our part, the trade union movement will work to ensure that occupational health research enjoys the funding it deserves. Without us, such agencies as NIOSH would never have been created. But we can do more.

What workers need from you in return is, quite simply, the truth. First and foremost, the research you do must be thoughtful and objective. But we hope you can do more. We hope you will choose your research objectives, not solely on the basis of scientific interest or available funding, but by asking what we need to know to best protect workers. And we hope you will add your voice to the effort to win worker rights and establish safer conditions around the globe. That is the mission of the ILO; that is the tradition of public health. You stand in a long line of researchers who fought for public health, from the early epidemiologist John Snow, who in 1854 identified and then destroyed the Broad Street cholera pump in London, to Alice Hamilton who early in this century established occupational medicine in the United States. Such scientists are objective researchers, but they are not “disinterested”—they are passionately committed to human welfare.

That passion, indeed, should motivate us all. Safety and health in the workplace must be a shared commitment, a common concern. We ask only that you work with us to ensure it.

## A GOVERNMENTAL PERSPECTIVE ON THE PREVENTION OF OCCUPATIONAL LUNG DISEASES

**J. DONALD MILLAR, M.D.**

Assistant Surgeon General  
Director, National Institute for Occupational Safety and Health  
Centers for Disease Control, Atlanta, GA, USA

### INTRODUCTION

Thank you. I am very proud that the ILO asked NIOSH to co-sponsor this VIIth International Conference on the Pneumoconioses.

This summer in the United States we have had exceptionally warm weather. Almost every day we have been setting new records for high temperatures. It seems this Conference has followed the trend and has also proven exceptional. We have over 1,000 participants here from 50 countries; both are new records for The International Conference on the Pneumoconioses!!

Thanks to each of you for coming. As I traveled in many of the countries represented here, I always received the finest hospitality. I would like to say "Thank You" to each of you in your own language; instead I will simply welcome you and wish for you the same fine hospitality in my country that you have shown me in yours.

It is fitting that the VIIth International Pneumoconioses Conference should meet this week, in this place. This week, 124 years ago, delegates from 16 European nations met in Geneva, Switzerland, and founded the International Red Cross. The new organization had one clear purpose—to alleviate human suffering. We gather here committed to a similar noble purpose—alleviating the suffering of workers by preventing death, disease, and disability caused by the pneumoconioses.

It is also fitting that we meet here in Pittsburgh, Pennsylvania. For in 1869, almost 120 years ago, Pennsylvania was the first U.S. State to pass a law providing for the inspection of coal mines.

### BACKGROUND

I have been asked to provide you with a brief overview of The Prevention of Occupational Lung Diseases, from the perspective of the U.S. Government. As you no doubt have realized from listening to my predecessors at this podium, there are several agencies of our federal (central) government who are involved with this problem; it would be difficult for any one of us to delineate a *single* U.S. governmental perspective. However, a month ago, I began my 8th year as Director of one of those agencies, the National Institute for Occupational Safety and Health (NIOSH). So,

I can share with you a personal professional perspective based on my experience in that assignment.

But first, those of you from other countries may appreciate some brief explanation of the various U.S. agencies active in this field whose names, or rather initials, you have heard or seen in the Program. I will attempt a brief orientation to the principal federal governmental agencies involved.

In 1970, the U.S. Congress passed a law, the Occupational Safety and Health Act, which is fundamental to the subject of this conference. It created two of the agencies from whose Directors you have already heard. The "Occupational Safety and Health Administration" or "OSHA" is directed by Mr. John Pendergrass. "The National Institute for Occupational Safety and Health" or "NIOSH" is in my charge. As Mr. Pendergrass told you, OSHA, which is part of the U.S. Department of Labor, is responsible for promulgating and enforcing standards for the workplace. NIOSH, which is part of the U.S. Department of Health and Human Services, is responsible for conducting laboratory research and field investigations, for training professionals, and for recommending standards.

As regards mining specifically, there are two other agencies at work. These are the "Mine Safety and Health Administration" or "MSHA", created by the Federal Coal Mine Safety and Health Act of 1969 (and its amendments of 1977), and the oldest federal agency in this field, the "Bureau of Mines" or "BOM". "BOM" was created in 1907 in response to a major mine disaster in Monongah, West Virginia, where 400 miners, mostly non-English speaking immigrants, were killed. MSHA, which is part of the U.S. Department of Labor, is responsible for setting and enforcing standards in mines; the Bureau of Mines, which is part of the U.S. Department of the Interior, conducts research on problems related to mining.

To oversimplify then, OSHA and MSHA are agencies which regulate the workplace, while NIOSH and BOM are agencies which principally conduct research and disseminate information. Please note that we have all joined happily together with the ILO to co-sponsor this conference!

### National Perspective Rooted in Heritage

Our central governmental perspective on any subject reflects the traditions of our culture and history as a nation. In this

regard, America has traditionally emphasized the sanctity of human life in its fundamental governing principles. Our first national document—the “Declaration of Independence” of 1776, depicted Life (along with Liberty) as an “inalienable right” of each citizen.

Hence, a governmental perspective on the prevention of occupational lung disease begins with a reaffirmation of the right of workers to *live*. By their very nature as human beings, the lives and health of workers should take priority over all else that concerns us in the workplace. These same principles were later reflected in the Constitution of the United States, and even later in the Occupational Safety and Health Act which seeks “safe and healthful working conditions for every working man and woman.” So whatever we do as a nation that affects workers should be measured first and foremost against one standard—the prevention of harm, (i.e., the prevention of disease, injury, and death) caused by work.

Are we meeting the standard? You be the judge. In the U.S. each year about 8,000 workers are killed, 10 million others suffer significant injuries, and perhaps 400,000 suffer occupational diseases.

### Perspective Guided by Analysis

As part of a national Institute focusing on occupational safety and health, we in NIOSH see our principal role as one of exercising professional leadership to assure that our citizens understand the burden and the nature of occupational disease and injury. We also feel obligated to assure that they understand what can be done to prevent these problems. In exercising this leadership, we, NIOSH, in 1982 began to delineate and prioritize the occupational health problems of our country. For the first time in the U.S., we developed a list of the ten leading occupational diseases and injuries using the following criteria: (1) frequency of the problem; (2) severity in the individual case; (3) amenability to prevention.

As most of you know, we reached the conclusion that occupational lung diseases deserve first place on the list; i.e., these occupational diseases of the lungs constitute the most important occupational disease problem in the United States.

Our view of our role as a national leader demanded also that we describe a strategy by which each of the 10 leading occupational problems could be prevented. To accomplish this, we convened two National Symposia at which proposed strategies for preventing each problem were developed. This process has resulted in an unprecedented, broad-based, understanding of what we as a nation can and need to do to reduce the burden of our most important occupational diseases. These ten proposed prevention strategies are now published. The words exist, the actions to fulfill the words are another matter.

### Perspective Inspired by Experience

Being here with you in such a “melting pot” of professionals from all over the world seems to compel me to reflect on “how it was” 20 years ago. At that time I was working hard in the beginning stages of the global smallpox eradication campaign. It was a difficult, frustrating, and yet exhilarating time. Many apparently wise people said smallpox eradica-

tion could not be done and that we were deranged even to try. Yet smallpox eradication was done. In the process, East and West, the industrially developed and the industrially developing, the aligned and the non-aligned, all joined hands in pursuit of a common goal. No barriers to eradication were so great that they could not be solved.

As a result, smallpox has been extinct now these 10 years. Even in India where smallpox was thoroughly entrenched for thousands of years, young people recognize “smallpox” only as a vague historical entity without contemporary relevance. Smallpox is gone because smallpox eradication was an idea whose time had come.

### Perspective Provokes a Challenge

Now, I will gently ask this audience two questions, (1) are the pneumoconioses—any of them—eradicable? (2) Is their eradication an idea whose time has come? I believe the answer to the first question is “yes”. The pneumoconioses are eradicable. While eradicating smallpox we learned that in order for a disease to be eradicated, it should have the following characteristics: (1) The source of the hazard is obvious; (2) Those at risk are predictable; (3) An intervention is available that protects those at risk from the hazard.

With the pneumoconioses, (1) the source of the hazard is obvious. As was written in the Proposed National Strategy for the Prevention of the Occupational Lung Diseases, “occupational lung disease is caused by inhalation of toxic substances present in the work environment.” Work-related lung diseases may “be further complicated by cigarette smoking and its independent or synergistic effects on the lungs.” (2) Those at risk are predictable, namely workers exposed to the airborne toxic substances. For the most part, workers who smoke are at greater risk. (3) A specific intervention is available which protects those at risk from the hazard, namely eliminating inhalation of the toxic substance. This can be done by eliminating the toxic substances in the environment, and/or by preventing their inhalation from the environment. This process is greatly abetted by not smoking cigarettes.

Those are the reasons why I believe that the pneumoconioses are eradicable.

### Is This the Time?

Now, is eradication of the pneumoconioses an idea whose time has come? Ah, there’s the rub. Smallpox vaccine was introduced 200 years before global smallpox eradication was initiated. Yet when the time came, after 200 years of preaching, eradication was accomplished through a major outpouring of international cooperation, and national commitments by many countries. Here, I think we have a problem. Eradication of smallpox required that we *exceed* the ordinary effort and do more than was minimally necessary, to assure the outcome. And this rule is generalizable. After all, to achieve victory in any field requires a sacrificial commitment. In fighting smallpox there was an international willingness to use every weapon, maximally, to reach zero cases. It meant going on a “wartime footing.” And here, I’m afraid we face a formidable problem. In the field of oc-

cupational safety and health, we are far too accustomed to doing the *minimum*, not the maximum. Rather than doing all that we can conceive in prevention, we are much more likely to do as little as we can get away with. Instead of overwhelming our occupational health problems with a noble extremity of effort, we often settle for a marginal token contribution. In this field we are much too infatuated with the "small, economy model;" far too prone to compromise.

(As an aside regarding sound investment, I would point out that the total financial commitment of the United States to global smallpox eradication, is recovered *every four months* in savings of the costs of the programs on vaccination and quarantine we previously *had* to maintain in order to keep smallpox out!)

Like all conferences, this one ultimately will be a Conference of words. But may we now add a new word—the word "eradication"? Unless the word is spoken, the outcome will never happen. And what better group to begin to speak this word and to probe its requirements, than this group, which knows more about The Pneumoconioses than any other group in the world.

Is it possible that the next one of these international conferences might be titled "The VIIIth International Conference on the *Eradication* of Pneumoconioses?" Think about it.

Thank you.

## **WELCOME ADDRESS OF THE INTERNATIONAL SOCIAL SECURITY ASSOCIATION**

**ROLF HOPF**

Member of the Bureau of the International Social Security Association

Ladies and Gentlemen:

It is an honour and a pleasure for me to extend to you the greetings of the International Social Security Association on the occasion of this Conference of such long-lasting tradition. For the seventh time, specialists from the entire world have gathered here in order to exchange their experiences on the protection of the health of workers against the risks of exposure to dust in the workplace. The new knowledge acquired here will be applied to measures for workers' protection and thus contribute to the prevention of pneumoconioses and mitigate and cure the effects of these diseases.

The struggle against pneumoconioses is not only a task confronting medical science. On the contrary, together with medical care, there must be an assurance that adequate measures are taken to ensure that sick workers are provided with social compensation. The International Social Security Association has set itself the target of supporting and improving measures for the protection, promotion and development of social security through its specialized activities. Today, the ISSA works in an advisory capacity on a voluntary collaboration basis in more than 159 countries throughout the world. The ISSA attaches particular value to the protection of workers against lung diseases caused by dust. This is exemplified by the fact that the ISSA has established a special section for the mining industry, which is one of the nine sections towards which the ISSA has oriented its focal activities.

The worldwide collaboration of all occupational safety and health institutions has led to a coordinated struggle against pneumoconioses. The declining figures for these occupational diseases demonstrate that the common effort has produced fruitful results. On the international level, social security institutions or governments, ensure that workers are guaranteed social security as well as protection at work through national regulations. To us it seems evident that workers suffering from dust-related lung diseases should benefit from financial compensation, although the principles for this were only established a few decades ago.

Around 20 years ago, specifically in the year 1969, our friendly host country decreed a federal programme for the

protection of miners. As a result, it was guaranteed that miners suffering from lung diseases would receive a monthly cash payment, or, in the event of death, their relatives or heirs would receive a pension.

It is to the credit of specialists in medical science and practice that their work has established the link between the causes and development of pneumoconioses and that today, there are not only possibilities for their prevention and early detection, but also for curative treatment. Although we can look back with pride on the past success in health protection, problems still remain which demand urgent answers. We cannot yet affirm that the problems have been satisfactorily solved. This is precisely why it is so important that we remain in contact, in order to jointly seek solutions.

The ISSA has set itself the target of encouraging and supporting international exchanges, to provide guidelines and inspiration, and of promoting further development. Besides other activities, the ISSA, in collaboration with the International Labour Office, organises a world congress on occupational safety and health every three years. The next one, the XIIth World Congress on Occupational Safety and Health, will take place in my homeland in the city of Hamburg in May 1990. Its theme is "A Safe and Healthy Working Environment—a Task for the Enterprise and for Society." The hosting associations for statutory accident insurance are expecting about 2,000 participants. The Congress will provide the most recent information on the development of workers' health protection for all specialists in the field of occupational safety and health. Regular contacts and exchanges can contribute to the improvement of the working environment all over the world and to the reduction of the burden placed on the community by a constantly rising number of accidents at work and occupational diseases. In this context, the World Congress provides an appropriate forum for discussion. As President of this Congress, may I already today invite you and tell you how delighted I will be to greet you in Hamburg.

I hope that this Pneumoconioses Conference will be a successful experience and that you use the information you acquire here for the benefit of workers in your native land.

## ADDRESS TO THE VIITH INTERNATIONAL CONFERENCE ON THE PNEUMOCONIOSES ON BEHALF OF THE INTERNATIONAL COMMISSION ON OCCUPATIONAL HEALTH

PREMSYL V. PELNAR, M.D.

Medical Advisor, The Asbestos Institute, 1130 Sherbrooke Street West, Suite 410  
Montreal, Quebec H3A 2M8

It is an honor and privilege for me to address this distinguished assembly on behalf of the International Commission on Occupational Health. The ICOH, under its original name Permanent Commission, was founded by a private group of scientists in 1906 and thus it is the most senior of international organizations working in the field of occupational health. It was already 13 years old when International Labour Organization and Office were created. The birth of ILO was accepted by the Permanent Commission with great satisfaction as it was seen as a great ally with official standing in protection of the workers' health. Indeed the first Secretary General of the Permanent Commission, Dr. Luigi Carozzi, was appointed Head of the Industrial Hygiene Section of the ILO and served in this capacity for full 20 years. In various periods of time such personal unions between the ILO and the Permanent Commission—ICOH were successfully repeated. Let us just mention the ILO periods of later President of ICOH Dr. Robert Murray, and the ILO period of the present Secretary Treasurer of ICOH, Dr. Luigi Parmegiani. For many years now the ICOH has enjoyed a special position with ILO. Our representatives at many occasions were allowed to actively participate in the ILO meetings. Some members of ICOH were invited for working in the ILO institutes of occupational health in developing countries. Many others were called as experts in preparing international recommendations and other ILO legal instruments. On the other hand, members of ICOH come from a great number of countries in which they frequently occupy important posi-

tions. They can effectively encourage the implementation of the ILO instruments and guidance in practice of occupational health in their countries.

A good example of cooperation for mutual benefit is the field of pneumoconiosis. Silicosis and coal-workers' pneumoconiosis have been a common concern for many years and many conferences. Asbestosis appeared prominently on the scene later, in 1960. The UICC/Cincinnati Classification of radiograms covering more specifically asbestosis was developed by an international group of scientists many of whom were members and leading personalities of ICOH. The ILO accepted it, gave it its official sanction as "the ILO Classification" and provided its world wide dissemination accompanied with valuable standard films. Up-date of the Classification prepared by an ICOH Task Force is on the agenda of this Conference. Another example: Several ILO Meetings of Experts at which the ICOH was always represented addressed the question how to use asbestos safely. On the basis of this work eventually the ILO Convention Concerning Safety in the use of Asbestos was passed and accepted in 1986.

The present status of ICOH as a non-governmental cooperating organization with the United Nations gives us a particular privilege to be close allies of ILO in its endeavors toward protection of workers' safety and health. Let me thank ILO for accepting us in this capacity, and let me wish ILO and this conference the best success.

## OPENING ADDRESS BY THE REPRESENTATIVE OF THE WORLD HEALTH ORGANIZATION

**BERNICE GOELZER**

Office of Occupational Health, World Health Organization

On behalf of the Director-General of the World Health Organization, I would like to greet the organizers and sponsors of this VIIIth International Pneumoconiosis Conference, as well as all the participants, and wish for a very successful exchange of knowledge and experiences with the objective, not only of improving our skills for the prevention of pneumoconioses and other occupational lung diseases, but, more important even, of finding ways to put these skills into practice. So much is known about the etiology of silicosis and other pneumoconioses, so much is known about evaluations and control of exposures to dust in the work environment; however, pneumoconioses still claim countless victims, everyday, all over the world, as exemplified by the Representative of the International Labour Organization. I believe that, on a world-wide basis, the greatest challenge for us, occupational health professionals, and for all concerned with the health of workers, is to apply the vast knowledge which is already available in our field.

Work is necessary. Each piece of work accomplished, each pound of ore extracted, each pound of steel produced, each item manufactured, constitutes an essential link in a chain which allows the survival of the human race. All work is important, and the greatest injustice is that, in order to accomplish it, human beings may lose their health, and even their life, or may have an unacceptable quality of life. Scientists, occupational health professionals, technical personnel, international organizations, scientific institutions, governments, enterprises, workers organizations, all should join hands in the fight against such injustice. Keywords for this are collaboration and commitment.

The Director-General of the World Health Organization has been requested by Member States, on many occasions, through a number of resolutions, to give special attention to the health of working populations, as can be exemplified by the following extract from Resolution WHA33.31 (May 1980):

“... to support the developing countries in ensuring safe working conditions and effective protective measures for workers' health in agriculture, in mining and in industrial enterprises which already exist or which will be set up in the process of industrialization, by using the experience available in this field by both industrialized and developing countries, ...”.

Through its Office of Occupational Health, and in collaboration with the International Labour Organization, the World Health Organization aims at the prevention of occupational diseases and at health promotion in the workplace. The main approaches are to collaborate with countries in the development of their own capabilities to establish and operate occupational health programmes, and to prepare supporting documentation and educational materials. In its activities, the Office of Occupational Health focuses both on the workers, for example, the development of guidelines for the early detection of health impairment, or the development of educational materials for workers, and, on work environment, for example, the development of guidelines for the evaluation and control of occupational hazards.

Only a multidisciplinary approach, by which medical, environmental and required sciences complement one another in an integrated effort, can lead to the prevention of occupational diseases and, beyond, to the promotion of health through the workplace. We should not forget what Alice Hamilton, a very eminent occupational physician, once wrote, with reference to silicosis: “... obviously, the way to attack silicosis is to prevent the formation and escape of dust, ...”. While the formation and escape of dust in the work environment is not prevented, nothing is achieved in terms of protecting workers from pneumoconioses; the recognition of a dust hazard, the diagnosis of a pneumoconiosis, the accomplishment of accurate dust evaluations, the establishment of correlations between dusty occupations and lung diseases, are all necessary steps, but which have real meaning only, if and when, they serve as the basis for an adequate control strategy. In fact, the goal of occupational health practice should be to anticipate and control hazards before they can even occur. Control technology for the prevention of occupational diseases comprises the planning and design of control measures, both environmental and personal, as well as their implementation and continuous operation. Therefore, the immense and essential task of protecting the health of workers can only be accomplished through close collaboration and joint efforts by occupational health professionals, such as occupational hygienists, physicians, nurses, ergonomists, and workers, managers, administrators and governments. That we may all work together for the protection of workers' health.